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(72) Inventor: Kuo, Chihping
Milpitas, California 95035 (US)

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(74) Representative: Jehan, Robert et al
Williams, Powell & Associates,
34 Tavistock Street
London WC2E 7PB (GB)

(71) Applicant: Hewlett-Packard Company
Palo Alto, California 94304 (US)

(54) Light emitting diode

(57) A light emitting diode (10) having an efficient blue or green light emission is obtained by growing a buffer layer (12) composed of an indium gallium nitride compound-semiconductor buffer on a sapphire substrate (14). A layer of gallium aluminum indium nitride compound-semiconductor (16A), which serves as the light emitting layer or active layer, is formed over the buffer layer (12). The light emitting layer (16A) has a

similar indium content as the buffer layer (12) to match more closely the lattice constants of the layers. The lattice defects between the buffer layer (12) and the light emitting layer (16A) are decreased because the addition of indium improves the crystalline quality of the layers. The blue or green light emitting property is further improved due to the enhanced crystalline quality of the light emitting layer (16A).

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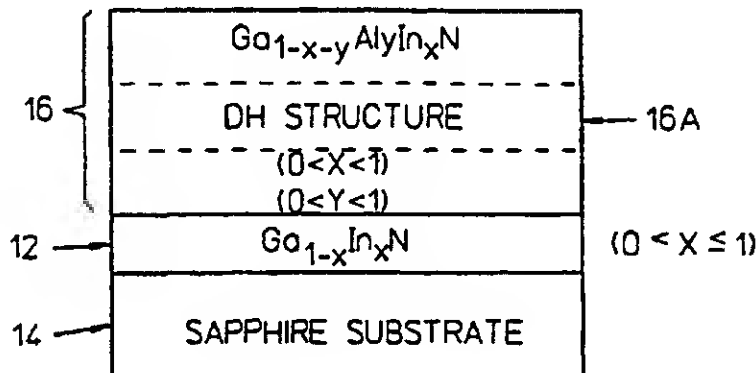


FIG. 3



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EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	PATENT ABSTRACTS OF JAPAN vol. 017, no. 640 (E-1465), 26 November 1993 & JP 05 206513 A (SHARP CORP), 13 August 1993, * abstract *	1,4	H01L33/00
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O,A	--- US 5 290 393 A (NAKAMURA SHUJI) 1 March 1994 * page 1, line 1 - line 36 * * page 2, line 2 - line 16; figures 1,2 *	1	
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			H01L
Place of search THE HAGUE		Date of completion of the search 23 April 1997	Examiner De Laere, A
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			